

## REMARKS

Entry of the foregoing, re-examination and reconsideration of the subject matter identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.111, and in light of the remarks which follow, are respectfully requested.

Claims 2, 28, 31, 56 and 59 have been canceled without prejudice or disclaimer. The Specification and remaining claims have been amended in response to issues raised in the Official Action. Thus, independent claims 1 and 30 now define the compositions of the invention in terms of a simple or complex emulsion comprising a cosmetically acceptable aqueous carrier, a photoprotective system capable of screening out UV radiation, and spherical microparticles of porous silica. Support for these changes may be found in paragraphs [0002], [0012], [0056] and [0057] of the Specification. Claims 1, 3-27, 29, 30, 32-55, 57 and 58 are now remain pending in this application.

Turning to the Office Action, the Specification was objected to for the reasons set forth on page 2 of the Action. In response thereto, all trademarks have been capitalized, and accent marks have been removed from the compounds listed in paragraphs [0039] and [0040]. Applicant has reviewed paragraph [0063] and can find no accent mark on the word "results." Accordingly, the objections have now been obviated.

Claims 1-59 were rejected under 35 U.S.C. §112, second paragraph, for the reasons set forth on pages 3 and 4 of the Office Action. Withdrawal of this rejection is respectfully requested in view of the above amendments and the following remarks.

The term "generally spherical" has been removed from the claims. The word "(nano)" has been replaced. The term "self or artificial" has been removed, as has "photoprotecting", "SPF-enhancing" and "UV-protecting" amounts. Reconsideration is requested of the objection to "and/or" and "derivatives."

The legal standard for determining compliance with the second paragraph of 35 U.S.C. §112 is whether the claims reasonably apprise those of ordinary skill in the art of their scope. See In re Warmerdam, 33 F.3d 1354, 1361, 31 U.S.P.Q.2d 1754, 1759 (Fed. Cir. 1994). In determining whether this standard is met, the definiteness of the language employed in the claim should be analyzed, not in a vacuum, but in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art. In re Johnson, 558 F.2d 1008, 1015, 194 U.S.P.Q. 187, 193 (CCPA 1977).

The words "and/or" are not, *per se*, indefinite. The words "skin and/or hair" are not indefinite since the terminology only encompasses three possibilities. Thus, those of ordinary skill clearly would be apprised of the scope of the claims.

Similarly, the scope of suitable derivatives would readily be apparent to those of ordinary skill, bearing in mind that the compounds capable of screening UV radiation set forth in the Specification are well-known and described in many available patents and publications. Applicant notes that U.S. Patent No. 6,171,602 (Roman) of record likewise uses the term "or derivatives thereof" in the specification and claims in reference to well-known UV absorbers without setting forth any specific derivatives.

In view of the above, the §112, second paragraph rejections have been obviated and should be withdrawn.

Claims 1-6, 9-12, 14, 15, 25, 30, 31, 40 and 41 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,258,857 (Iijima et al) for the reasons set forth on pages 4-6 of the Office Action. Claims 30, 31, 40, 41, 43, 45 and 46 were rejected 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,171,602 (Roman) for the reasons discussed at page 6 of the Official Action. Reconsideration and withdrawal of these rejections are requested for at least the following reasons.

Present claim 1 is directed to a device having: (A) a reservoir containing a composition for protecting skin and/or the hair against ultraviolet radiation, and (B) means to place the composition under pressure. The composition is in the form of simple or complex emulsion and comprises, in a cosmetically acceptable aqueous carrier:

- (a) a photoprotective system capable of screening out UV radiation; and
- (b) spherical microparticles of porous silica.

Claim 30 is directed to the composition, *per se*. Neither Iijima et al '857 nor Roman '602 anticipates these embodiments.

Iijima et al '857 is directed to a concentrated liquid composition contained in a releasing container such as an aerosol. This composition is generally in the form of an aqueous dispersion of particles of porous silica carrying a chemical active compound; the particles are used in association with a synthetic resin and/or an acrylic acid polymer in the presence of an alkaline agent. The chemical active compound may be selected from perfumes, insect repellents (DEET), deodorants, plant extracts, UV blocker, antioxidant, antipruritic, hair growth promoter, vitamin, antiperspirant, sunburn remedy, antiseptic, moisturizer, styptic, oil and others. Examples 1 to 9 only concern aqueous dispersions of porous silica carrying active ingredients which are not UV screening agents but an insect repellent (i.e.: DEET) or an antiperspirant (i.e.: Aluminum Hydroxide Chloride).

Iijima et al '857 does not teach or suggest the use of the porous silica particles in a composition in an emulsion containing (a) a photoprotective system capable of screening out UV radiation; and (b) spherical microparticles of porous silica; the composition being in a pressurized device. Although the reference indicates that the compositions may further contain surfactants, they are used for enhancing the dispersion performance of the porous fine particles and not for forming emulsions (see column 12, lines 60-64 and column 13, first paragraph)./

Roman et al '602 discloses a stable natural-pigment-containing flowable powder composition comprising an absorbent base containing a porous bead, into which has been absorbed a hydroalcoholic base containing a base pigment, an UV absorber and an antioxidant. The hydroalcoholic base may further contain emulsifiers. They are used here for enhancing mixing of the components and not for forming emulsions (see column 3, lines 1-11). This document does not disclose or suggest an aqueous emulsion containing spherical microparticles of porous silica and a photoprotective system as now set forth in amended claims 30, 40, 41, 43, 45 and 46.

In view of the above, the §102 rejections over Iijima et al '857 and Roman '602 should be reconsidered and withdrawn. Such action is earnestly solicited.

Claims 32-39, 40, 41 and 53 were rejected under 35 U.S.C. §103(a) as obvious over Roman '602 for the reasons set forth on pages 7 and 8 of the Official Action. Claims 3, 5, 7, 8, 11, 16-18, 28, 29, 40, 41, 43 and 44 were rejected under 35 U.S.C. §103(a) as obvious over Iijima et al '857 for the reasons set forth on pages 9 and 10 of the Official Action. Claims 13, 42, 58 and 59 were rejected under 35 U.S.C. §103(a) as unpatentable over Iijima et al '857 as applied to claims 3, 5, 7, 8, 16-18, 28 and 29 above, and further in view of U.S. Published Patent Application No. 2002/0155073 (Frankhauser et al) for the reasons set forth on pages 10 and 11 of the Office Action. Claims 19-24 and 47-52 were rejected under 35 U.S.C. §103(a) as obvious over Iijima et al '857 as applied to claims 3, 5, 7, 8, 16-18, 28 and 29 above, and further in view of U.S. Patent No. 6,458,906 (Torgerson et al) for the reasons set forth on pages 11-13 of the Official Action. Claims 26, 27 and 54-57 were rejected under 35 U.S.C. §103(a) as unpatentable over Iijima et al '857 in view of Torgerson et al '906 as applied to claims 3, 5, 7, 8, 16-18, 28 and 29 above, and further in view of U.S. Patent No. 6,033,648 (Candau) for the reasons set forth on pages 13 and 14 of the Official Action. Reconsideration and withdrawal of these rejections are requested for at least the following reasons.

The objective of the present invention was to develop UV protective compositions useable in spray form and providing a high protection index. It was unexpectedly discovered that the use of spherical microparticles of porous silica in a pressurizing device containing an emulsion comprising at least one UV radiation screening system provided an anti-sun composition having protection indices higher than those obtained with the same photoprotective system alone. This discovery forms the basis of the presently claimed invention.

Example 1 of the present application shows clearly (see comparative tests and formulae A and B) the increase in SPF obtained by using spherical microparticles of porous silica in a sprayable emulsion comprising at least one UV radiation screening system. This effect could not have been predicted by a skilled man in the art from combining the disclosures of the cited art. Neither Iijima et al '857 nor Roman '602 disclose any emulsion containing spherical microparticles of porous silica carrying a UV filter. Examples 1 to 9 of Iijima et al '857 only concern aqueous dispersions (not emulsions) of porous silica carrying active ingredients which are not UV screening agents but an insect repellent (i.e.: DEET) or an antiperspirant (i.e.: Aluminum Hydroxide Chloride). The references were not concerned with the technical problem of increasing the SPF in an anti-sun spray composition. The cited references do not disclose aqueous emulsions suitable for application from pressurized devices as claimed herein. They do not suggest that the presence of spherical microparticles of porous silica in aqueous emulsions of UV screening agents unexpectedly increases the SPF.

The other references applied in the various §103(a) rejections do not supply the aforementioned deficiencies in Iijima et al '857 or Roman '602. US 2002/0155073 (Frankhauser et al) concerns a method for preventing tanning and for lightening human skin and hair consisting of applying micronized organic UV filters. There is no suggestion of using spherical microparticles of porous silica in a pressurized anti-sun emulsion composition in order to increase the SPF. U.S. Patent No. 6,458,906 (Torgerson et al) relates to specific thermoplastic

elastomeric copolymers useful for incorporation in a wide variety of cosmetic compositions.

They allow the compositions to more easily and uniformly spread upon the skin, feel good upon the skin, and provide better penetration of some actives into the skin or through the skin.

Nothing is taught about using spherical microparticles of porous silica in a pressurized suncare emulsion composition in order to increase the SPF. U.S. Patent No. 6,033,648 (Candau) discloses artificial coloring compositions containing nanopigments of iron oxides in order to provide the skin with a natural tanning color. Nothing is disclosed about using spherical microparticles of porous silica in a pressurized suncare emulsion composition in order to increase SPF.

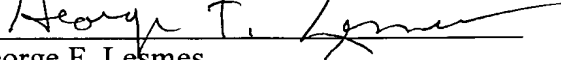
In view of the above, the §103 rejections should be reconsidered and withdrawn. Such action is earnestly solicited.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned at (703) 838-6683 at his earliest convenience.

Respectfully submitted,

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